

Remarks/Arguments:

Claims 1, 2, and 4-10 are pending.

Claims 3 and 11 are canceled, without prejudice or disclaimer.

Applicant's wish to thank Examiner Liam J. Heincer for the courteous consideration rendered applicant's representative during a telephone interview on June 26, 2009. Substantively, applicant's representative pointed out to the examiner that a reference (JP 11080037) relied on to reject the claims in the Office Action mailed April 15, 2009, was not cited in the Form PTO 892 accompanying the Office Action and a copy of the cited reference was not provided with the Office Action. Whereupon, the examiner kindly agreed to issue a supplemental Office Action—superceding the action mailed April 15, 2009, and restarting the time period for response—which would include a new Form PTO 892 citing JP 11080037 and a copy of the cited reference.

Claims 1, 2, and 4-10 were rejected under 35 USC 112, ¶1, for allegedly lacking supporting written description. Reconsideration is requested.

The statement of rejection alleges that written description is lacking for the present, single-step claims. With all due respect, the statement of rejection—and, so, the rejection under §112, ¶1—is clearly incorrect.

The instant specification (English language translation), page 9, lines 18-19, states "This example [Example 6] clearly shows that it is entirely possible to synthesize the modifying agent and

incorporate it into a natural clay in a single step" (emphasis added). More specifically, Example 6 describes (specification page 9, lines 12-17) a "single step" (process) embodiment, whereby:

The treatment, resulting from a step for synthesis of the ammonium compound followed by its incorporation and exchange within natural clay sheets, was carried out at 40°C for 24 hours at a pressure of 300 bars of supercritical CO₂ in the presence of 0.37 ml of bromooctane, 1.4 ml of tridodecylamine and 2 g of Cloisite® Na⁺. The operating procedure described in Example 1 was then carried out. The interplanar spacing obtained was 20.3 Å and the degree of ion exchange was 63%.

Accordingly, written description in the subject application unequivocally supports—and, so, the written description requirements of §112, ¶1, are satisfied for—the present, single-step claims.

In view of the foregoing remarks, the rejection of claims 1, 2, and 4-10 under §112, ¶1, for allegedly lacking supporting written description, is overcome. Withdrawal of the rejection appears to be in order.

Claims 1, 2, and 4-9 were rejected under 35 USC 103(a) for allegedly being obvious over JP11080037 English abstract (Ishii) in view of US2761835 (Brown). Claim 10 was rejected under 35 USC 103(a) for allegedly being obvious over Ishii in view of Brown and further in view of US5654347 (Khemani). Reconsideration of the rejections under §103(a) is requested.

Ishii discloses a process involving contacting an inorganic laminar (clay) compound, preferably montmorillonite, with an organic "guest" compound, for example, 4-phenylazoaniline, in the presence of CO₂ in a supercritical state. Accordingly—under such a process—no chemical binding occurs between the clay and the "guest" compound.

As disclosed in Ishii both the clay and organic "guest" compound "are liquified by introducing carbon dioxide while cooling," i.e., both the clay and organic "guest" compound are

soluble in CO₂. The resulting "objective compound material" is, indeed, a non-polar product, which is solubilized by the non-polar (supercritical CO₂) solvent.

Ishii (further) teaches that, while in the presence of CO₂ in a supercritical state, "the organic guest compound . . . is transported to every nook and corner of the fine voids of the inorganic laminar compound." Thus, after removal of the CO₂, the "objective compound material" is obtained, which material consists of the organic guest compound "uniformly adsorbed on," and "strongly retained" by, "fine voids of the inorganic laminar compound."

In accordance with the presently claimed invention, a polar organomodifier, i.e., a quaternary ammonium salt, is used; and, as well known in the art, a polar molecule can only be solubilized by a polar solvent. A polar molecule, such as a quaternary ammonium salt, is insoluble in a non-polar solvent, such as the supercritical carbon dioxide (solvent) used in Ishii. Moreover, in accordance with the presently claimed process, binding—by cationic exchange—occurs between the "montmorillonite type clay" and the "organomodifier."

Acknowledging that the Ishii process fails to meet the (polar) "organomodifier" limitation on the present claims, the rejection alleges that it would have been obvious, in view of Brown, to use the "organomodifier" (recited in the present claims) in place of the organic guest compound, i.e., 4-phenylazoaniline, in the Ishii process and, thereby (allegedly), meet all limitations on the present claims. With all due respect, the statement of rejection is incorrect.

Admittedly, Brown discloses the use of compounds (e.g., tetraethylammonium chloride) meeting the "organomodifier" limitation on the present claims, together with clays. However, the

alleged obviousness of modifying the teachings of Ishii—by replacing non-polar 4-phenylazoaniline (used by Ishii) with the polar tetraethylammonium chloride used by Brown is akin to replacing apples with oranges.

The teachings of Ishii require preparing a "solution" of the inorganic clay and organic guest compounds, in supercritical carbon dioxide. Accordingly, the guest compound cannot be insoluble in supercritical carbon dioxide, i.e., a carbon-dioxide-insoluble guest compound would not function as required in Ishii and, so, would not effect "the objective compound material" obtained by Ishii: Unless "dissolved [in] carbon dioxide" the guest compound cannot be "transported" to every nook and corner of the fine voids of the inorganic laminar compound and [be] uniformly adsorbed on every part[] of the [laminar compound] voids and strongly retained [thereby]"; in other words, the invention on which Ishii is based would be destroyed.

Thus, according to the statement of rejection, it would have been obvious to use polar tetraethylammonium chloride, as disclosed in Brown, in place of non-polar 4-phenylazoaniline, as used/disclosed in Ishii. On the contrary, however, one skilled in the art would not have found it obvious to combine the teachings of Ishii and Brown as alleged in the statement of rejection because, as explained above, the combined teachings would destroy the invention on which Ishii is based. *Ex parte Hartman* 186 USPQ 366 (POBd App 1974) (in an obviousness analysis, a reference cannot be combined with another reference in such a way that destroys the invention on which one of the references is based).

In fact, not only would the skilled artisan not have found it obvious to combine the teachings of Ishii and Brown as alleged in the statement of rejection, the combined teachings of Ishii and Brown actually evidence patentability, i.e., nonobviousness, of the presently claimed invention, since the combination of references would effectively teach away from the presently claimed invention. *In re Spinnoble*, 160 USPQ 237, 244 (CCPA 1969) (references taken in combination teach away when the combination would produce a "seemingly inoperative device").

The fact that all elements of a claimed invention are known does not, by itself, make the combination obvious. *Ex parte Clapp*, 227 USPQ 972 (BPA&I 1985). "One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fine*, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988).

It is impermissible within the framework of §103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.

In re Hedges, 228 USPQ 685, 687 (Fed. Cir. 1986). *See Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988) ("it is impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention").

In view of the foregoing remarks, the rejection of claims 1, 2, and 4-9 under §103(a) based on Ishii in view of Brown is overcome. Withdrawal of the rejection appears to be in order.

In the rejection of claim 10, Khemani is relied on only as (allegedly) meeting the limitation to a "biodegradable polyester foam ... having a homogeneous, substantially regular, fine and closed cellular structure" recited in the claim. As such, the reference neither teaches nor suggests anything

that would cure the fatal deficiency of the combined Ishii and Brown teachings, in meeting the clay modification process—and the organomodified clay obtained made thereby—in accordance with rejected claims 1, 2, and 4-9, as explained above.

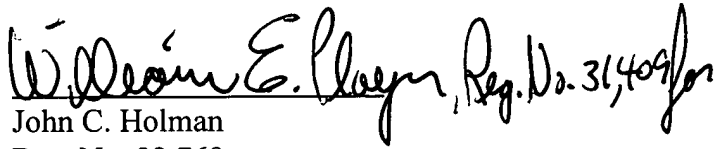
In view of the foregoing remarks, the rejection of claim 10 under §103(a) based on Ishii in view of Brown and further in view of Khemani is overcome. Withdrawal of the rejection appears to be in order.

Favorable action is requested.

Respectfully submitted,

JACOBSON HOLMAN PLLC

By


John C. Holman
Reg. No. 22,769

400 Seventh Street, NW
The Jenifer Building
Washington, D.C. 20004
Tel. (202) 638-6666
Fax (202) 393-5350
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